

PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

Mussel Habitat

Mussels are an important but often overlooked component of river ecosystems. Dense populations of mussels with a high diversity of species often occur in clusters called “mussel beds”. These mussel beds are typically associated with stable sand/gravel substrate located in moderately flowing water. Mussel beds are not limited to shallow water depths, as several large beds have been observed in some of the deepest parts of rivers. The location and extent of such beds often is poorly known, and ongoing efforts should be made to locate and record mussel beds within river systems.

Natural shorelines provide the best habitat for mussels and their host species, which are a critical part of their life cycle. Excessive use of poorly sized and placed rip-rap can disrupt, diminish or destroy entire beds by covering them or changing current patterns and increasing siltation downstream. Seawalls and permanent piers and pilings can also have a negative effect on mussels by changing flow patterns which in turn alter areas of scour and deposition. Mussel beds can be covered up by silt moved from upstream areas. Changes to shoreline habitat may result in a reduction of the intermittent host fish species in that area that the mussels rely on for reproduction. Sedimentation, erosion, nutrient-laden runoff, and other factors that negatively impact water quality are a threat to mussels.

Management Objectives

- Maintain abundant and diverse mussel populations.
- Expand distribution and abundance data for mussels.

Management Prescriptions

- Protect and maintain known mussel beds.
- Maintain natural shoreline, as this is the best habitat for mussels and their host species.
- Limit the use of aesthetic or landscaping rip-rap where erosion is not taking place, where threatened or endangered species or valuable habitat features (e.g., natural shorelines, abundant coarse woody debris) are present, or where adverse environmental impacts are expected.
- Carefully review permits for permanent pilings and seawalls relative to their potential impacts on flows and sediment transport.
- Identify and inventory mussel beds.
- Develop a standardized mussel sampling protocol for non-wadeable waters.
- Determine distribution and abundance of threatened and endangered mussel species.
- Consult with appropriate staff from affected programs (e.g., Fisheries, Natural Heritage Conservation, Wildlife Management, etc.) to prioritize future sites for in-stream and stream bank fish habitat enhancement projects



and during project planning to ensure that mussel beds or mussel bed restoration areas are evaluated prior to project implementation.

- Promote the use of grassed waterways in agricultural areas to reduce sediments and runoff into the river and its tributaries.

